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EXAMINER	
DRAPER, G	
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US PATENT OPERATIONS KMF
AMGEN INC
AMGEN CENTER
1840 DEHAVILLAND DRIVE M S 10-1-B
THOUSAND OAKS CA 91320-1789

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), — days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____.

Part II SUMMARY OF ACTION

1. ☒ Claims 1-12 are pending in the application.
   Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-4 are rejected.
5. ☐ Claims _____ are objected to.
6. ☒ Claims 1-12 are subject to restriction or election requirement.
7. ☒ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____ ; filed on _____.
13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-4, drawn to a method of treating excess weight, classified in classes 424 and 514, subclasses 85.2 and 2+ respectively.

II. Claims 5-10, drawn to DNA encoding the Ob protein and vectors, classified in classes 536 and 435, subclasses 23.5 and 320.1 respectively.

III. Claims 11-12, drawn to a method of refolding a partially purified Ob protein, classified in class 530, subclass 351+.

The inventions are distinct, each from the other because:

Inventions Group II and Group III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the DNA of Group II can be used other than to make the Ob protein such as its use in therapy or diagnostically. Furthermore, the protein can be made other than with the refolding method of Group III, such as its preparation from nature using various isolation/purification/ chromatographic processes; or it could be made by chemical synthesis.

It is further pointed out that inventions of Group I and III are directed to two different and distinct methods. Although there are no provisions under the section for "Relationship of inventions" in MPEP 806.05 for different/distinct processes /methods, restriction is deemed to be proper because these processes/methods appear to constitute patentably distinct inventions. These two methods require the use of physically and functionally distinct elements, different components and steps, as well as have different starting features and different final outcomes, which are not required one for the other. The method of refolding the ob protein is quite distinct from a method of using the ob protein.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, which are not co-extensive, and

because of the recognized divergent subject matter between the receptor and the methods of making and using the antibodies; there are different issues for the search and examination of each group; and in view of the grouping of multiple elements in Group I to satisfy the 371 practice, to search additional groups would be an undue burden on the Examiner, therefore, restriction for examination purposes as indicated is proper.

During a telephone conversation with Carol Pessin on 12-4-96 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-4. Affirmation of this election must be made by applicant in responding to this Office action. Claims 5-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

A title that is more descriptive to the elected method is suggested.

3. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

An abstract that is drafted to reflect the elected invention is requested.

4. Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants invention appears to rely on their novel concept that an continuous infusion of the Ob protein was able to achieve weight loss and that this weight loss was significant over the use of the mere injection of the Ob protein even though the injections were at a higher concentration (page 1,2, 13 and 21). First of all, it is not clear if applicants are referring to their earlier work or work that was known or published in the art about the effectiveness of ob protein

injections for weight loss, because no specific citation or documentation was provide for this. The question then becomes whether this is a valid/relevant comparison.

Secondly, although Example 1, and table 1 and 2 provide some limited data to support the claimed invention, this is still insufficient to enable the claims. For example, the claims state that the method is directed tp treating **excess** weight; however, all of the evidence and results of record were reported to be with normal (non-obese) rats; therefore, it is not clear is these results are sufficient to support the claims because excess weight was not shown in the experimental animals used. Secondly, it is not clear if all of the mice (control and test subjects) were fed in the same manner; nor is it clear if the genetic make-up of all of those used in the study were sufficiently similar to test for regulation/control of this genetic defect that the obese/Ob protein is associated with. Third, it would appear that the use of mice that were only 8 weeks old would be an inappropriate age range for weight stabilized test subjects. Fourth, applicants state at the bottom of page 21 that their 4.62%, which apparently was determined from baseline weight, was significant for the 6th day period in which this percent was achieved. Given the fact that the mice were only 18-22 grams (page 14 of the specification), it would appear that this is not a significant percent of weight loss, especially for mice that are very young and that were normal and not obese. Finally, while applicants state that the inventive concept encompasses the use of continuous administration from the use of a pump or chemical derivatives from sustained release formulation. Only the former was tested, but for all the reasons stated above, this still does not appear to be sufficient to enable the claims. It would also appear that the use of a pump would not represent a practical means of achieving continuous infusion of the Ob protein for weight loss. If such is contemplated for humans or other mammals it would appear that the use of a pump would be costly and cumbersome; and applicants have not enabled the nature of the pumps that would beneficially achieve the desired results. Relative to the other means, sustained release, there is insufficient evidence or guidance that a steady and continuous amount of Ob protein can

be delivered in order to achiever the weight loss. Based on all of the above, the result of record do not provide sufficient support to enable the claims.

Applicants claims also require the use of chemically modified forms of the protein, which would encompass various complexes, conjugates, fragments and even protein that have insertions, deletions and substitution of certain residues. But the only modified forms of the claims that appears to have been contemplated by applicant is the use of the Ob protein (mature Ob or those with an N-terminal Met) pegylated to polymers for use in sustained release. The preparation and possible use of Peg conjugated Ob protein is not sufficient to enable other modified or derivative forms of the Ob protein that are encompassed within the scope of the claims. Thus, to obviate this aspect of the enablement rejection, it is suggested that the claims be amended to refer to the use of pegylated Ob protein, or some other more appropriate term to represent these polymer derivatives.

5. The claims appear to be free of the art, as there does not appear to be a prior art teaching for the treatment of weight loss by **continuous administration** of the ob protein.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The art listed on the PTO 892 is cited as of interest to show related art.

7. Any inquiry concerning this communication should be directed to Garnette Draper at telephone number (703) 308-4232.

GARNETTE D. DRAPER
PRIMARY EXAMINER
GROUP 1800